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INFRAVENTUS – Internationalizing a Renewables Business to Kenya

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I Abstract

Infraventus – Internationalizing a Renewables Business to Kenya

Infraventus is a renewable energy development company, with a consolidated experience, since 1988, in developing, constructing and operating projects mainly in Portugal, but also in other countries: Spain, Poland, France, Australia, Finland and Panama, and is now regarding Kenya as a possible destiny. Kenya is the biggest economy of East Africa, with a growing GDP around 5% and a low level of electric grid coverage thru its territory, 33% of national access to electricity. Kenya energy policy is intended to promote the investment in renewables; wind and sun are existing resources in good measures. Kenya is an interesting destiny to Infraventus, but has many risks. The objective of this dissertation is to evaluate the possible advantages of this investment and risks and propose recommendations about how to mitigate them considering alternative entry modes.

Keywords: Infraventus, Internationalization Strategy, Renewable Energy Sources, Kenya

II Purpose of the Project

This project will analyze the strategic decision of Infraventus of expansion to Kenya and reflect on the best way to do it, considering the company's capabilities and weaknesses and the destiny market attractiveness and threats. Along the project I will make a study of the specific dimensions of the company, such as: business definition, know-how, competitiveness, organizational structure and evaluate how these characteristics better adapt in an internationalization process. Also I will analyze the way the company organizes itself and how it organizes its moves in order to preserve structural flexibility.

The analysis of Kenya will be considered when evaluating the best entry strategy.

With the purpose of evaluating the start-up of the project I will make an entry projection where I will address the main points considered during this project: organizational structure, business development and an investment previewing map.

III Infraventus

III.1 The Group

Infraventus Group (Exhibit 1) is a privately owned group whose team is specialized in developing and operating renewable energy projects. The Infraventus team led one of the first independent European portfolios of renewable energy assets – Enersis (founded in 1988) – the largest in Portugal and one of the largest in France – comprising the delivery of more than 1,100 MW (Megawatt) of renewable energy projects as an owner and more than 500 MW of additional projects for third parties as a commercial and technical consultant.

Since 2008, upon the disposal of this portfolio, the team has been dedicated to developing renewable energy projects through creating co-investment groups with individual investors. Infraventus Group until 31 March, 2015 had 137 MW on renewable energy operating projects in Portugal and Spain, and more than 2,000 MW of portfolio under development in Finland, Portugal, Panama and Australia either for whole ownership or third parties through its subsidiaries. The group also provided consulting services for third parties on other countries such as South Africa, Mozambique and Angola. [Extra Information on **Error! Reference source not found.**]

III.2 Strategic Dimensions

Infraventus Group main activity is the development of renewable green field projects, until the financial close, meaning having all the necessary documents to proceed with the construction (including the project finance agreement), then build them and finally either explore or sell.

Strategic Objectives: Infraventus previews that the development of the projects and their sustained exploitation will be a valuable asset for institutional funds, so their sale will revert in a capital gain to the investors. To fulfill this objective, Infraventus has to keep on developing new projects and this implies internationalizing to new geographies.

Infraventus has to be attentive to the opportunities that appear either by exploring profitable contacts or by incorporating new technologies that contribute to greater efficiency in the resources exploitation.

Core Competences: To analyze the core competences of Infraventus I've pursued the VRIO Framework, Barney and Hesterly (2012, pg 68-81).

(1) *Value*: (1) Privileged access to information; (2) Eligibility in the licensing procedures; (3) Flexible and creative negotiation capacities; (4) Extensive experience of the team on the development of renewable projects – wind, solar and hydro – in different geographies and (5) the procurement of financial resources for the development of projects with a long history of successful businesses that reinforce the credibility of the company among investors and financial institutions; (6) Recognition and trust from other players of the sector; (7) Capacity to manage the critical success factors and the capacity to negotiate to resolve problems.

(2) *Rarity*: In Europe and Portugal (where most operations are held) there aren't many competitors with the same characteristics as the Group. The competitors which have the same experience on the market are generally companies that belong in big electricity groups (such as EDP Renováveis in Portugal) and that do not own the flexibility that Infraventus has due to its small size. Also the experience of Infraventus CEO has the pioneer in bringing some renewable technologies to Portugal is also proof of its experience and rarity.

(3) Imitability: The type of knowledge and value proposition that Infraventus owns, gives them a competitive advantage and is hard to imitate. To gain the experience and the contacts that Infravenuts has requires not only a vast amount of time but also a team with the capacity to sustain them, leading me to conclude that this is their particularity which is hard to imitate.

(4) *Organization:* Aware of the knowledge developed over a long-established experience in the renewable energy sector, Infraventus Group and its Partners have developed a network of companies operating in the various stages of renewable energy projects, from prospection,

licensing and development to construction, financing and operation. Infraventus Group Organizational Structure is divided in: (1) Assets and (2) Services (Exhibit 2).

(1) **Assets**, each project, meaning a production unit (mini-hydro; wind or solar farm), is owned by a different company, where Infraventus' participation, direct or through a sub-holding, is of 50% minimum. To Infraventus this organizational strategy has several advantages: differentiated shareholders structures; limited responsibilities attached to each project; differentiated financing structures; simplicity in an event of a selling; investment leveraging. In Infraventus' structure the development companies are organized by geography or technologies (hydro, solar or wind), but mainly it depends of the shareholders structures and on Infraventus controlling at least 50%.

(2) **Services**, is the network of companies that offer competitive solutions that help the Group progress, mitigating risks, overcoming vulnerabilities and seizing the opportunities in the global market. The corporate structure of the Group is highly versatile, which makes it possible not only to meet all the internal needs but also to offer high added-value services to external clients. **Infraventus**' team is specialized in Transactions and Investment Management, namely investment assessment and valuation, due diligence coordination and global management of transactions and investment processes; **4Green** is dedicated to Project Development, assessing, prospecting, designing, developing, licensing and tendering renewable energy projects; **Infratec** is the Owners Operational Support, dedicated to technical supervision, contract management/enforcement and operational support for owners of renewable energy assets; **Nrmais** provides Integrated Support Services, meaning services related with accounting, and tax compliance obligations, namely SNC accounting, tax returns, payroll, treasury management, insurance advisory, accompanying and support on risk mitigation approaches. The services companies also have a differentiated ownership that is related with the management.

When the projects begin operation, the maximization of their revenues is dependent on an efficient operation which is also a determinant factor of success but doesn't constitute one of the

competitive advantages of Infraventus since it isn't their core business. This means that if that happens, Infraventus might choose to internationalize their subsidiary of operation and maintenance or contract that service to some other company operating in the market. The analysis of sustainability of the competitive advantages as a success factor of the projects is granted by the contracts of guaranteed sale (PPA) which define the value of the portfolio of assets detained by Infraventus.

IV Internationalization Process to Kenya

Analyzing the possibility of internationalizing to Kenya was decided not because Infraventus has particularly considered this country has a target but because the opportunity appeared through the contact of the probable local partner, and as the company has the technical and financial capacities to invest in the project startup, it was necessary to evaluate its interest, and that was what Infraventus proposed me to do for my Direct Research Internship dissertation.

The internationalization strategy of Infraventus has two determinant factors:

(1) The company's need to expand its operations beyond its national territory, since it is already saturated, meaning that there aren't many licenses for connection with the grid with tariffs that are sufficiently attractive; (2) To explore opportunities in emerging markets where arises the possibility to establish local partnerships that allow to take advantage of the existing synergies, derived from the procedures knowledge of Infraventus about the development and financing of renewables projects, and the local partner's knowledge of the local conditions and its privileged contact with the local entities, namely referring to the land negotiations or licensing.

According to Lassere (2003), the analysis of the internationalization global strategy goes through four components: Ambition, Positioning, Business System and Organization.

Global Ambition: The Global Ambition refers to the way that the company sees its internationalization process and the role that it intends to have in the global market. Infraventus sees itself as a **Local Player**, enjoying a competitive advantage for a particular geography, and this has been the strategy followed by the company when expanding to other geographies.

So the Infraventus' strategy relatively to Kenya, replica of other movements done by the company, undergoes from taking advantage of the possibility to develop a partnership that will help to survey the opportunities for the development of new solar and wind farms, and as a support for the eventual implementation of some of these opportunities.

Global Positioning: Global positioning refers to the choice of countries where the company intends to compete and the definition of the value proposition for its clients.

The choice of countries to where to expand has been centered in three factors:

(1) Opportunity to establish local partnerships that will facilitate the licensing procedures and the land negotiations; (2) Evaluation of the economic development and legal framework of the country that will make it interesting for investments in the medium run – marketing countries; (3) Evaluation of the qualities of the country in relation to its geographic positioning that allow it to become a hub to possible expansion to others in the same region – platform countries.

Regarding the expansion to Kenya, it is a country with a growing economy – real GDP growth of 5.2% in 2013 and estimations of 5.7% for 2014 – and where the need for energy supply is already much bigger than the installed capacity – there is a 16% electrification rate and the national access to electricity is between 33% and 35%. These are numbers that classify Kenya as an attractive region to develop projects where the future profitability is forecasted to be high, meaning that it is a marketing country. On the other hand, it can also become a platform to the expansion for the surrounding regions since Kenya is nowadays already a key player in economic co-operation within Eastern Africa and a member of several regional blocks including East African Community, the Common Market for Eastern and Southern Africa and Intergovernmental Authority on Development.

As for the proposals of value that Infraventus will be able to provide with the development of new projects, their final product is the supply of electrical energy to the final consumer. So the supplied product is a standard product. Nevertheless it is electrical energy produced by

renewable sources, which is a differentiating factor, meaning that the service can be classified as standard differentiated.

Concerning the adaptability of the product towards consumer niches it seems to me that it is an adapted product, not because of the source of the supplied product but because the installation of the production systems and the grid connection to supply to the consumers are processes subjected to different regulatory frameworks and it is the capacity to adapt to the needs of different geographies that allows the company to operate in different markets. This means that we can classify the supplied product by Infraventus as standardized niche differentiator.

Global Organization: Considering the internationalization model of Infraventus and considering that the company when expanding to other geographies has as its final objective the sale of the portfolio of the developed assets, means that the organizational model where there is a centralized coordination is the more suitable not only in the beginning phase but also if the expansion opportunities emerge moderately. In this model the skills are centralized by the mother company whereby the team members participate in the projects from the mother company. The organizational culture that prevails is that of the mother's company.

The potential growth of the Kenya market may force the company to adopt other organizational structures that allow a more autonomous operation from the local structure such as when we refer to processes as licensing, land negotiations or even the obtainment of financing from investors or local financial institutions.

Objectives for Kenya: Developing a green field project means to go thru several steps, each being strategic to the success of the project. The listed steps will be pursued only for a geography considered adequate after a risk evaluation analysis.

(1) Identification of the attractiveness of a specific geographic region. This phase has three determinant factors: the existence of the resource in a measure that allows its economic exploitation, the capacity to feed the electricity produced into the grid and the existence or the

viability of implementing commercial structures that allow the sale of produced energy, such as a power purchase agreement (PPA).

(2) Evaluation of the possibilities to establish local partnerships that facilitate the institutional relationships (such as governmental entities or public and private companies that have a significant local power), particularly important to attain licenses; or with individuals and/or companies when referring to land negotiations for the setup of the wind or solar farms.

(3) Search and evaluation of the installment beyond the presence of the natural resource: land negotiation, licensing viability, economical evaluation of placing the project in a particular installment (considering the construction costs, the connection to the grid costs, the environmental impact assessment, etc.).

(4) Financing structuring and fund raising: such as the composition of equity, allocated between capital owned by Infraventus and other investors (eventually local investors) private or institutional and bank financing.

(5) Building of the project, where have to be considered the alternatives of a turn-key project or on a cost-plus basis, the contracts and warranties of the contractors and of the equipment suppliers and finally the connection to the grid.

After the connection to the grid the project moves to assets in operation, shifting its management to a subsidiary, Infratec. But the final objective of Infraventus for its assets in operation is, as previously referred, its sale. So, the Infraventus final clients are institutional entities with a high degree of sophistication that search for asset portfolios with established profitability, meaning that the closing of business is based on technical evaluations of the assets in operation, the history and the economical profitability projections and the current valuation, and also one more determinant factor: the accommodation of the contractual conditions.

IV.1 Attractiveness: PESTLE Analysis

To understand why Kenya can be a smart choice for Infraventus, there is the need to access its opportunities to evaluate its attractiveness. I will do a PESTEL Analysis.

Political: Although Kenya's political risk has been gradually decreasing, it still exists and can definitely have a negative impact when conducting business in Kenya.

First of all there is still a significant instability and risk, which result from both internal and external conflicts of the country. The many different ethnicities present in Kenya and their influence on the country's politics create an instable political structure. Also, the proximity with Somalia and the presence of Kenyan troops in the south of this country increases significantly the risk of terrorist attacks (Exhibit 4).

Economic: The economy's short to medium term forecast is of a sustained and rising growth based on a stable macroeconomic environment, that contributes to increased investors and business confidence, stability of the Kenya Shilling and reforms affecting security, governance and justice. In 2013 the real GDP growth rate reached 5.2%, and the estimated for 2014 is of 5.7%, the rates for the first three quarters of 2014 were 4.3% and 4.6%.

Kenya is a key player in economic co-operation within Eastern Africa and a member of several regional blocks including East African Community, the Common Market for Eastern and Southern Africa and Intergovernmental Authority on Development.

Referring to the Energy Sector the government aims to increase the total electricity generating capacity of geothermal resources to 5.000MW by 2030, and to accelerate rural access rate to electricity to reaching 65% by 2022 and universal access by 2030. The last objective is meant to be accomplished through grid extensions, mini grids and solar PV installations.

The electricity demand outlook through 2031 anticipates that significant amount of investments would be required to expand electricity generation, transmission and distribution to meet the projected demand. The Least Cost Power Development Plan 2011–2031 envisions that Kenya's electricity peak demand will increase from 1303 MW (2011) to 15026 MW (2030) (Exhibit 3).

Kenya benefits from the country's leading role within the East African Community which intends to promote the expansion and modernization of the East African infrastructures.

Social: Kenya is classified to be a low income economy by the World Bank, which needs to maintain external assistance flows, with its GDP growth being stimulated by household consumption and investment. Unemployment is persistently high, estimated to be over 30%. Kenya has a high budget deficit, although it is expected to decrease. The budget deficit has been high because of the infrastructure investments and a reduction in international aid payments, but it should decrease in 2015 because of the harmonization of VAT carried out in September 2013 and the ambitious tax reforms planned for 2015.

Kenya also suffers from widespread corruption in government and was ranked 136 out of 177 in the World Transparency International Corruption index (2013). In the recent past new measures to fight corruption include new parliamentary powers to check the president. The government has been working with the International Monetary Fund (IMF) to increase their economic growth and to eradicate corruption.

Technological: For a start, the regulatory regime does not yet meet global standards or best practices and the financial sector is very vulnerable due to government influence and weak supervision although there have been efforts to improve this situation. For cultural reasons credit is often linked to land tenure.

Inadequate infrastructures such as telecommunications, transportation and energy power supply – the national grid does not currently extend to all parts of Kenya (see figure 2.2 on www.renewableenergy.go.ke Kenya Power Distribution Master Plan), and much of the existing network is inadequate and does not have the capacity to satisfy the current demand – deep negative impact on the economic. There are also risks of electric line vandalism.

The new constitution of Kenya guarantees the local population the right to join and form Trade Unions and to engage in collective bargaining. It is estimated that about 5% of the local workforce belongs to a union.

At present, wind energy shares only a meagre 0,3% of total energy installations, and over the past few years the government of Kenya has received 23 proposals for settling up wind projects

in the country, of which 20 have been accepted. Despite this fact, there are only still a few projects implemented, such as the Ngong Hills wind project, which are owned by national companies – the Ngong Hills wind project is of the Kenya Electricity Generation Company (KenGen). In the case of solar, there are 13 operational micro grids, all operated also by a national company – Kenya Power & Lightning Company (KPLC). In respect to support resources such as infrastructures Kenya is lacking development, this can be proved by example by the fact that its electrification rate is of only 16%.

Legal: The Government has zero-rated import duty and removed Value Added Tax (VAT) on renewable energy equipment and accessories. The Energy Regulatory Commission has prepared Solar Water Heating Regulations. These steps are intended to mitigate the challenges faced in exploiting the solar energy resource. The Ministry of Energy developed the Wind Atlas in 2003 with indicative data to guide investors. To augment the information contained in the Wind Atlas, the Ministry, with the assistance of Development Partners is installing 53 Wind Masts and Data Loggers to collect site specific data. Finally, in 2008 the Ministry of Energy established a Feed in Tariff policy (FiT) which provides investment security and market stability for investors. This FiT is US$0.11/kWh for wind projects and US$0.12/kWh for solar projects. These tariffs apply for 20 years from the date of the first commissioning of the solar and wind power plants. The Government of Kenya will also implement other policies (quoted from the National Energy Policy, Final Draft, 27 Feb 2014, page 58 and 61) which I underline the following: "Provide incentives to promote the local production and use of efficient solar systems."; "Provide fiscal incentives on solar panels and equipment."; "Provide for offences and enhance penalties for theft and vandalism of solar systems."; "Formulate and enforce minimum standards for wind energy technologies.".

Environmental: Kenya although being a country with immense renewable energy resources in the form of geothermal, wind and solar faces huge energy availability problems, as many other countries in the African continent. Taking into consideration the aim of the particular project I

am working on I will limit my analysis to wind and solar resources, which are both considered to be present in Kenya as a great energy potential, but with a big gap in-between the potential and its exploitation. In one hand, a Wind Resource Assessment carried out by WinDForce in Kenya showed that this resource has the capacity to fulfill the electricity power requirements for the whole country, acknowledging that over 73% of the total area of the country experiences annual average wind-speeds of more than 6 m/s at 100m above ground, which is substantially higher than the global average of 4.59 m/s at 80m. On the other hand, the daily insolation of Kenya potentiates the solar resource exploration with an average potential. Kenya receives a daily insolation of 4-6 kWh/m^2 whereas the earth average is around 6 kWh/m^2. These values reflect the fact that Africa enjoys 51% of Earth's most concentrated sunlight.

IV.2 Competitive Environment for Kenya based on Porter's Five Forces

Threat of New Entrants: Threat of new entrants refers to the barriers to entry of a specific industry. These barriers can arise from many different sources. The first type of barriers that can appear, which play a significant role in the renewables industry is the government policies. In fact, the expansion to Kenya is highly dependent on the procurement of licenses to be able to develop new projects. These licenses are assigned by the local government through either public tenders or legislation. Another critical determinant, also dependent on the government, are the Feed in Tariffs, which determines the projects' economic viability.

Another barrier to entry are the huge capital requirements. In order to develop a solar or wind energy power generation project companies need to incur in high investment costs. Related with this arises another barrier which is the financing availability. This availability is dependent on many different factors such as the reputation of the company or the local market conditions.

Finally, the learning curves and economies of scale also play an important role in hamper the accessibility to this industry to new entrants. Infraventus benefits from the learning curves of its long experience as being a pioneer in developing and operating in the renewables business which will enable it to exploit increased productivity and efficiency.

Economies of scale, which arise when the companies are able to decrease their average cost of production while increasing their output, have a direct application on this specific case in situations such as: a developer with a big portfolio buys equipment in bigger quantities so he can negotiate quantity discounts from the suppliers and also obtain cheaper financing, also he will be able to benefit from leveraged efficiency in operation and maintenance costs.

All this leads me to conclude that the **barriers to entry in this industry are high** and they lead to hard new entries conditions.

Bargaining Power of Suppliers: To understand the bargaining power of suppliers I've computed the global concentration ratio (Four-Firm – C_4 – and Eight-Firm – C_8) of both the leading wind turbine and PV solar manufacturers based on data from 2013 (Exhibit 5).

In the case of the wind turbine manufacturers, the concentration of suppliers is low when considering the top four firms, whereas it is medium if we consider the eight top firms. This shows that when we consider the C_8, the industry behaves like an oligopoly, meaning that the market is dominated by a small number of sellers whose actions will materially affect the overall market price and output.

In the case of the PV solar module manufacturers, on both the C_4 and the C_8, the concentration is low, meaning that in most cases individual firms won't have the power to affect the overall market price and output.

There is also a significant cost of switching suppliers since whenever a company starts negotiations with a specific supplier, they engage a lot of time and effort into compiling extensive contracts that include many warranties, price and methods of payment.

In the end I access the **bargaining power of the suppliers as medium**.

Bargaining Power of Buyers: As previously mentioned, the aim of the incurred project will be to develop – license and ultimately construct – potential projects and then sell them to investment funds, these funds are often constrained with a time limit to make their investments

and are willing to make negotiations faster, allowing the seller to have more power and conduct the negotiations.

Infraventus intends to deal with funds and sell their whole operations once set up, meaning that they have more power than the buyer, leading me to conclude that the **bargaining power of the buyer is low**. Especially since Infraventus is not in a rush to make a deal and can actually begin to operate the projects portfolio itself if they are not sold immediately.

Threat of Substitutes: There are many alternate ways of producing energy than wind/solar. The different alternatives can be either more or less efficient depending on factors such as the resources available, which determine the viability of the substitutes. The main substitute for the production of renewable energy is the fossil fuels which are still generally less costly. Nevertheless, the cost-competitiveness of renewable power generation technologies for wind and biomass has been improving reducing the cost gap between electricity production from wind or biomass when compared with production from fossil fuels. Also the solar electricity production costs have been declining quickly, solar PV has halved between 2010 and 2014.

In Kenya, the geothermal contributed roughly with 25% to the country's total energy power production mix in 2014 and the government is prioritizing investments to avail their vast capacity – between 7 000MW and 10 000MW in the Rift Valley province alone.

This leads me to conclude that the **threat of substitutes is medium**. Although the government is prioritizing the investments in geothermal, they are also trying to reduce Kenya's dependency of energy production from hydro sources and attract investment in all other renewable sources.

Intensity of Competitive Rivalry: As I have mentioned before, the number of potential competitors operating in Kenya is still low. The risk of an investment in Kenya generally diverge risk averse companies. In fact the current operations of renewables in Kenya are owned by local public companies. Nevertheless due to the recent efforts to attract foreign investors to Kenya, there have been some foreign companies that started licensing procedures for new

renewable projects. Also the fact that renewable production is established with a FiT, meaning that the prices are fixed and will not change, offers temporary advantages over new competitors. My conclusion is that the **intensity of competitive rivalry is low**. The existing competitors or the few that are currently trying to license new projects do not own the vast know how that Infraventus already has on going through similar processes.

V Entry Strategy

After analyzing Kenya's market – both its attractiveness and its risks – I will evaluate the entry strategies for Infraventus. As mentioned in Lasserre's (2003), there are three main types of choices to be made: the entry objectives, the timing of entry and the mode of entry.

V.1 Entry Objectives

I started to define the objectives that Infraventus should set when entering Kenya:

(1) *Market development*, since the Kenyan market offers both size and growth opportunities. As mentioned before there is a big need to increase the supply of energy in Kenya to sustain its GDP growth and to reduce the country's dependency to both fossil fuels and hydro energy.

(2) *Resources access*, because Kenya offers one of the best locations to produce solar energy due to its geographic location. When considering wind, Kenya also offers good average values. Considering this I can say that Kenya offers good opportunities to invest, reinforced by the fact that the good availability of natural resources is complemented by the FiT for these projects.

(3) *Co-ordination objectives*, Kenya is considered to be a hub in the Eastern African countries, so Infraventus can transform its investment in a hub of towards the surrounding countries.

V.2 Timing of Entry

There is a small number of renewable solar and wind projects in Kenya with very few competitors, so the market can be characterized as in the "window phase". If investing now in Kenya Infraventus will adopt a first mover strategy, and can easily establish a strong competitive advantage, but will also incur in higher risks, mainly those related with the lack of infrastructures as discussed before.

V.3 Mode of Entry

There are several modes of entry that Infraventus can establish when internationalizing to Kenya. I've summarized in Exhibit 6, the modes of entry and their advantages/disadvantages.

The entry strategy that I believe best suits Infraventus intents and best applies to Kenya is a Joint Venture. There are several reasons for this: (1) The country risks; (2) The need to have a local entity that has a good contacts network, and a good knowledge of how to move the bureaucratic processes; (3) Cultural reasons – for example the fact that land is considered to be a signal of wealth can cause big problems when trying to rent land to install a project, among many others; (4) There might be other reasons associated with a more profound knowledge of the country's particularities: being geographical and cultural, like the best way to address people, ethnic or racial barriers, demographic characteristics that influence the consumption behaviors; being political, where there is a higher probability of vandalism, location and consequences of the political instability; or financial, as a personal knowledge of local financial institutions, etc.

The Joint Venture has to be established with a well related local partner, which has to fulfill the needs to establish relations with the government, local power institutions and local land owners, etc. Identifying the right local partner is key for success and mandatory for proceeding with the project.

As mentioned in a paper by Lowe (1965), one of the biggest difficulties associated with developing a joint venture in a developing country such as Kenya is the management control, meaning that local governments do not often enjoy the presence of a foreigner commanding operations, this point is addressed by Infraventus thru the organization structure, by creating a local company to make the development, and with the empowerment of the local partner as the local company major representative. It is very important not to underestimate the cultural forces of developing environments, meaning that Infraventus has to be seen as an ally rather than as an enemy to the established national objectives. Infraventus being a small company might not appear as a threat but as an ally with technical and management skills that will allow growth and

income to both Infraventus and locals, a business is a good business when all the evolving parts get to win.

Regarding the Joint Venture disadvantages presented, and considering Infraventus, I think that this strategy will contribute to reduce the initial investment, since there will be no need to reallocate someone to Kenya, and also because it will facilitate the sites prospection which will accelerate the projects development evaluations, and consequently reducing the time gap between the beginning of operations and projects ready to build. The potential problem over operations control, is addressed by clearly defining the role of each partner. Finally, as the business objective is to develop the projects and sell them, the long-term perspective shouldn't be a problem, and if the partners develop a different business view they can proceed with trading the assets at market prices.

V.4 Partner Selection

Infraventus decision of moving to Kenya is related with having already identified its local partner that has the characteristics mentioned above: belongs to a well related wealthy local family, with access to the local institutions; the partner also has a good understanding of the financial institutions and procedures to finance investments on African developing economies. In order to understand if the partner is fitted to embrace the joint venture with Infraventus I will perform the partner's fit analysis referred by Lassere (2003, page 198). There are four main issues that need to be tested:

(1) *Strategic Fit* – refers to understand if the objectives of both the partner and Infraventus are compatible. In this specific case I believe that this is very clear since the partnership is based on complementary capabilities and refers to specific tasks of each partner to reach the licensing of several projects. There are no long-term attachments. What the partners have to establish is a term of understanding where the role of each one is determined in each step of the project development and in what conditions they will sell the projects after being licensed.

(2) *Cultural Fit* – The fact that the Joint Venture is meant to be made with a single person and not with another company makes the cultural fit less important and easier to match. The partner will have to deal with Infraventus' team – which is already known to be welcoming and accessible, and as it is a small experimented team is used to deal and adapt to different partners and environments. Generally Infraventus management empowers the local representative and will intervene on the strategic decisions making, the rest of the team will be available and cooperative with the local operational moves. Being a senior experimented lawyer and a well related person, the partner has the required communication skills that I think will allow a smooth cultural fit.

(3) *Organizational Fit* – The fact that the chosen partner is a single person and not a fully operational organization makes this fit easier to deal. The partner will have the autonomy to be "the voice" of Infraventus in Kenya, and the partner will be reporting its activities and participating in the decision making directly with Infraventus management. The point that will have to be clearly agreed and clarified is the evaluation of the works that each one of the partners will deliver to the Joint-Venture.

(4) *Capabilities' Fit* – The local partner must have the skills required to contact and negotiate with local government, financial institutions, land owners and other local key players. When evaluating the partnership these were critical requirements and the chosen partner is meant to have all this, so I think that this Fit was seen as a target that is believed to have been accomplished.

In overall I believe that the partner will provide a **good** fit to the Infraventus mode of operations.

VI Financial Considerations

In this chapter I proceeded with an analysis of the budget and potential gains of the venture. Taking into consideration Infraventus recent experience in Panama in addition to the direct costs of projects (studies, land, measuring equipment feature etc.) an amount of 400 000 to 500 000

USD per two projects will be need to support the structure and the team. An initial budget is included in Exhibit 7.

For the first 3 to 6 months, after establishing their operations, the joint venture local team will proceed to identify new projects – if there is land with grid connection available. After identifying potential development sites the licensing procedure will begin and this requires: a number of licenses, various studies, negotiating land and equipment, among others.

In order to calculate the NPV of the two projects I had to make the following assumptions: (1) Each project has a total of 20 MW; (2) The pre-construction stage value per MW is of 100 000 USD; (3) Discount rate of 3%; (4) The costs will be incurred linearly throughout the 2 years.

With these assumptions I was able to evaluate that over the first two projects, which also represent roughly two years of development, the NPV is of 3.295.469$ (Exhibit 8).

If the decision is to proceed with the construction of the projects, the value per MW can increase 94,29% (Exhibit 9) but it also carries a higher number of risks. This option is not considered in the scope of this dissertation since now they are beyond Infraventus' established objectives for Kenya and cannot be fully evaluated in how much they would cost and what would be their impact during construction.

VII Conclusion

Investing in Kenya has a big potential but also carries big risks. As a conclusion to my dissertation I will consider the decision of whether Infravents should or not consider Kenya as a potential destiny.

When considering the investment in Kenya, where the minimum risks accessed are high it requires also a high return. The potential returns of a solar/wind farm in Kenya cannot be detailed analyzed without first moving some resources to the country and understanding the requirements (and their costs) needed. The know-how gained from a long history in the renewables market – especially in the development of green-field projects – can help Infraventus investment but most of its experience is on stable economies like Europe, where the

requirements of development are different – for example, the fact that in Kenya the land is considered to be an element of wealth can difficult to acquire/rent land.

In order to be successful in such undertaking, Infraventus will require the support of a local partner which has the knowledge of the local authorities and processes that need to be gone through. And, although the local partner seems to have been well-chosen, his knowledge of the local processes might not be enough to overcome problems that might arise in respect to the development process of licensing a green-field project. This leads me to the conclusion that Infraventus has to be cautious about the investment to be done in Kenya, although the opportunity shouldn't be missed.

Infraventus owns an operating company that can deliver project development services, and this particular company (4Green) has already a solid experience operating in South Africa, where it stayed for two years as a consultant providing development services for third parties. I believe that the main objective of Infraventus with the Kenya project should be to work for the local partner as a contracted technical consultant to help in the development of green-field projects, and minimize its participation as a partner in the Kenyan development company. This will minimize Infraventus' financial risk and give space to the local partner to negotiate with other potential investors. The main objective in this stage will be the identification of a large number of possible projects, so that it can reach an economic valuable portfolio of licenses. Meanwhile this kind of partnership will allow Infraventus to earn more knowledge and confidence about Kenya and the surrounding countries. With the expected technical advances in batteries Infraventus will then be well positioned to define a strategy for power supply of off-grid solutions for Kenya.

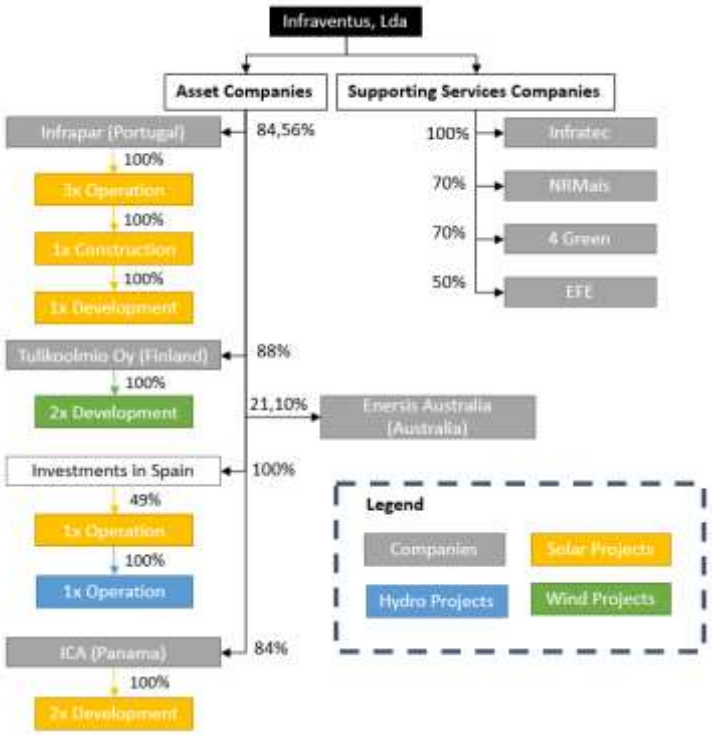
VIII Exhibits

Exhibit 1 - Infraventus Group In Numbers

	2011	2012	2013	2014
Permanent Employees	32	36	43	40
Portfolio Megawatt				
Operation	128,7	158,7	160,1	134,6
Construction	15	0,1	10,2	11,4
Market Share in Portugal	Minor	Minor	Minor	Minor
Revenues (In millions of €)	29,8 €	36,3 €	42 €	34,9 €
EBITDA (In millions of €)	19,6 €	20,6 €	34,2 €	24,4 €
Financing (In millions of €)	205,4 €	195,2 €	180,7 €	154 €
Investment (In millions of €)	23,9 €	20,1 €	9,8 €	10 €

Source 1- Own

Exhibit 2- Infraventus Organizational Structure (Simplified)



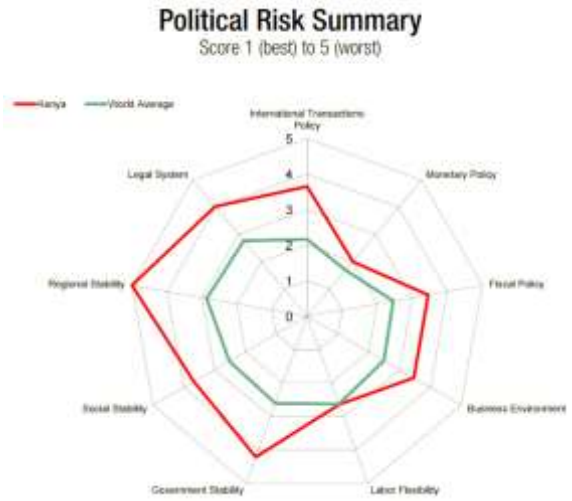
Source 2 – Own based on Infraventus Structure

Exhibit 3 - General Information about Kenya's Energy Market

Electrification Rate	16%
Total Installed Capacity	1 429 MW
Projected Installed Capacity	15.000 MW by 2030
Regulatory Entity	ERC – Energy Regulatory Commission
National Access to Electricity	33 – 35%

Source 3 – Own

Exhibit 4 - Political Risk Summary



Source 4 - A. M. Best

Exhibit 5- Wind and PV Solar Module Manufacturers Concentration

	Wind Turbine Manufacturers in 2013		PV Solar Module Manufacturers in 2013	
	Concentration Ratio	**Concentration**	**Concentration Ratio**	**Concentration**
Four-Firm	41,30%	Low	25,20%	Low
Eight-Firm	62,70%	Medium	41,80%	Low

Source 5 – Based on data taken from www.statista.com

Exhibit 6 - Different Modes of Entry Considerations

Mode of Entry	Advantages	Disadvantages
Wholly-Owned	• Full control of operations • Full profitability	• High investment cost • Difficulty to adapt to local culture: norms, local relations, etc. • Infraventus carries all the risks – especially in respect to equity and debt financing • Having someone from the in-house operations to relocate to Kenya and become country manager • Takes a long time to set-up
Acquisition	• Immediate availability of all the assets and operations • Full control of operations	• Need for cross-cultural integration skills – relationship in-between mother and local company can become unsustainable. • In the case of Kenya which is a very traditional country it can also be seen negatively by the locals and become a threat • High investment cost • Exposure to all the country risk
Joint Venture	• Leverage of different synergies of the partners: Infraventus supplies the know-how while the partner supplies the company-local relations • Mitigate the risks of the investment – they are shared with the chosen partner • Quick market entrance	• High investment cost • Shared control of operations • Are known to suffer from long-term decay and failure
Representative Office	• Low investment • Control of operations	• Find a house manager willing to expatriate to Kenya – or contract someone of trust who will • It is limited to the pre-phases of projects and if there are too many processes to deal with it clogs the manager's capacity and delays the processes • Full risk accepted by the mother company

Source 6- Own

Exhibit 7- Development Budget Simulation

Items	Budget
Land	20.000 USD
Studies & Projects	148.000 USD
Connection Agreement	0 USD
Other Development Costs	15.000 USD
Project Costs	**183.000 USD**
Local Expenses Kenya	
Accounting and audits	12.000 USD
Legal expenses / Taxes	5.000 USD
Office (monthly rent + maintenance)	19.680 USD
Communications	3.360 USD
Travel expenses Country Manager	4.000 USD
Car rental	24.000 USD
Car fuel Country Manager	9.120 USD
Country Manager Fee	70.000 USD
Apartment rental Country Manager	72.000 USD
Corporate Consultants	4.200 USD
Insurance - civil and personal responsib	3.800 USD
Legal consulting (lawyer)	14.400 USD
Other general expenses	3.360 USD
Sub-Total	**244.920 USD**
Support group PT	
Development services - contract	48.000 USD
Travels to Kenya	12.600 USD
Courier/mail expenses	500 USD
Sub-Total	**61.100 USD**
	489.020 USD

Source 7 – Own

Exhibit 8 - NPV Calculation

	Year 0	Year 1	Year 2
Costs	$ 163 007	$ 163 007	$ 163 007
Revenue			$ 4 000 000
Discounted CF	$ -163 007	$ -158 259	$ 3 616 734
NPV	$ 3 295 469		
Pessimistic NPV (0 Licenses)	$-474 915		
Optimistic NPV (3 Licenses)	$5 180 660		

Source 8 – Own

Exhibit 9 - Estimated Value per Project

Pre-Construction Stage	100 000 USD per Megawatt
Constructed with 6 months operation	1 750 000 USD per Megawatt

Source 9 – Based on New Energy Finance, The Portfolio Hunters 2

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